BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

COURSE OUTLINE

COURSE NAME *Radiographic Techniques and Evaluation*

COURSE NUMBER *MRAD 1103* | DATE *January 1996*

Prepared by *S. Hundvik, R.T., M.Ed.* | Taught to *1st* Level

School *Health Sciences* | School

Program *Medical Radiography* | Program

Date Prepared *November 1995* | Option

Level *1* Hrs/Wk *2* Credits *2.5*

No. of Weeks *17* Total Hours *34*

Instructor(s) *Shirley Hundvik, R.T., M.Ed.* Office *SW3 4077* Local *6918*

Office Hours *As Posted*

COURSE GOALS

To assist the student to develop the necessary skills to competently critique radiographs of the upper extremity, shoulder girdle, chest, abdomen, pelvis, hip and lower extremity.

To help students understand technical and physical principles affecting the radiographic image.

Upon successful completion of this course, the student will be able to:

1. Identify on radiographs of the chest, abdomen, extremities, shoulder, pelvis and hip the structures related to correct positioning and density.

2. Explain how factors in each of the following categories influence the radiographic image:
   a. technical
   b. geometric
   c. processing
   d. patient

3. Differentiate between the appropriate and inappropriate use of technical factors for routine radiography of the chest, abdomen, extremities, shoulder, pelvis and hip.

4. Evaluate radiographs of the chest, abdomen, extremities, shoulder, pelvis and hip for technical quality and diagnostic acceptability.

The above objectives must be met with 60% accuracy.

EVALUATION

Final Examination	50	%
Mid-Term	25	%
Laboratory Mid-Term Exam	25	%

REQUIRED TEXT(S) AND EQUIPMENT

1. Cullinan & Cullinan. Producing Quality Radiographs. 2nd Edition. (1994).
2. MRAD 1103 Workbook
3. Dennis & Eisenberg. Applied Radiographic Calculation.

REFERENCE TEXTS AND RECOMMENDED EQUIPMENT

1. Bushong, S. Radiologic Science for Technologists. 5th Edition.

COURSE SUMMARY

RADIOGRAPHIC TECHNIQUE AND EVALUATION
(1 Lecture and 1 Lab Hour per week)

Instruction will be given as to the proper approach to film evaluation and identification of the pertinent structures demonstrated on each radiograph as well as the technical considerations for each area. The student will become aware of all factors affecting radiographic quality and develop the necessary ability to adjust technical factors to produce optimum quality radiographs. During the lab periods the student will have the opportunity to review and evaluate radiographs.

PQR: Producing Quality Radiographs
ARC: Applied Radiographic Calculations

RST: Radiologic Science for Technologists

Week of	Topic/Material Covered	Reference/Reading	Lab Topics
January 8	Introduction The Radiographic Image	RST: p. 297-300 ARC: Section One	How To View a Radiograph
15	Introduction to the Bit System		Calculating Bit Values Density-Bit Comparison
22	Radiographic Density	RST: p. 305-308 ARC: p. 57-63 PQR: p. 114-120	How to Critique a Radiograph
29	Radiographic Density	ARC: p. 64-80	Chest Radiographs PQR: p. 151-172
February 5	Radiographic Contrast	PQR: p. 120-123 RST: p. 308-311 ARC: p. 81-91	Abdomen Radiographs
12	Radiographic Contrast	ARC: p. 93-102	Finger/thumb/hand
19	Mid-Term Exam		Wrist/scaphoid/forearm
26	Recorded Detail	PQR: p. 123-128 ACR: p. 103-109 RST: p. 286-292, & 311-312	Elbow/humerus
March 4	Recorded Detail		Mid-term Lab Exam
11	S P R I N G B R E A K		

Week of	Topic/Material Covered	Reference/Reading	Lab Topics
March 18	Distortion	PQR: p. 129-132 ARC: p. 111-116 RST: p. 282-286, 312	Shoulder/scapula/clavicle
25	Distortion		Toes/feet
April 1	Technical Factor Selection	PQR: p. 133-141 ARC: p. 131-135	Ankle/calcaneus, tibia and fibula
8	AEC techniques Types of charts	PQR: p. 147-150 ARC: p. 136-140	Knee/patella/femur
15	Easter Monday Holiday		Pelvis/hip
22	FINAL EXAMINATION WEEK		